

REMARKS

Claims 1-4, 13-16, and 31-45 are pending in this application. By this Amendment, claims 1, 32, 33, 37, 41, and 42 are amended, and claims 43-45 are added. Support for the new claims can be found in the original specification, including the claims and figures, for example, see Figure 6(d). Reconsideration in view of the above amendments and following remarks is respectfully requested.

Applicants gratefully acknowledge the courtesies extended by Examiner Lee in multiple telephone interviews as well as personal interviews. As discussed in the interviews, the “Y-junctions illustrated in Figures 4 and 5 of *Li et al.* (U.S. Patent No. 7,157,068, hereinafter referred to as “*Li*”). Applicants respectfully disagree with the interpretation in the Office Action, however, for the purposes of expediting prosecution, Applicants respectfully submit the above amendments and following remarks and request reconsideration.

1. 35 U.S.C. §102(e)

The Office Action rejects claims 33-35, 37-39, and 41 under 35 U.S.C. §102(e) as being anticipated by *Li*. The rejection is respectfully traversed.

Regarding claim 33, Applicants respectfully submit that *Li* fails to disclose or suggest all the features of claim 33, including at least the feature or two or more branched regions branching out from the middle portion of the main axis region without deviation of the main axis region. Applicants submit that the “arms” of the Y-junction of *Li* clearly illustrates a deviation of the “Y-junction” causing the “Y” shape of the junction, as illustrated in Fig. 4(b) and Fig. 5(c). This is further discussed in *Li*, col. 8, lines 58-60, wherein *Li* states that “the angles between adjacent arms are

close to about 120°, thereby resulting in branched CNTs that have a substantially symmetrical structure.”

Concerning claim 37, *Li* also fails to disclose or suggest all the features of claim 37. Specifically, Applicants submit that *Li* fails to disclose or suggest at least the feature of a main axis portion with two or more branched portions emanating from the main axis portion without deviation in the main axis portion.

As mentioned above, *Li* discloses Y-junctions that clearly cause deviation in the formation of Y-junctions.

For at least the reasons set forth above, Applicants respectfully submit that claims 33 and 37 are allowable. Claims 34 and 35 depend from claim 33, and claims 38, 39, and 41 depend from claim 37, and are allowable for at least the same reasons. Withdrawal of the rejection is respectfully requested.

2. 35 U.S.C. §103(a)

a. *Li* in view of *Coll et al.*

The Office Action rejects claims 1, 2, 13, 14, 32, and 42 under 35 U.S.C. §103(a) as being unpatentable over *Li* in view of *Coll et al.* (U.S. Patent No. 6,596,187, hereinafter referred to as “*Coll*”). The rejection is respectfully traversed.

Applicants respectfully submit that *Li* and *Coll* fail to disclose or suggest all the features of claim 1, including at least the feature of two or more branches branching out symmetrically around the main axis from first portions to form branched carbon nanotubes.

Li discloses, as mentioned above, branched CNTs comprising a plurality of Y-junctions, wherein as discussed in the interview, two portions of the Y-junction are

interpreted as being the main axis, as illustrated in 5(d) of *Li*. As such, *Li* clearly does not disclose or suggest two or more branches branching out symmetrically around the main axis, but at best discloses one branch at each Y-junction, which while symmetrical to the one portion of the "Y-junction" does not provide for both a main axis and two or more branches branching out symmetrically, as recited in the claim. Therefore, *Li* does not disclose two branches symmetrically around the main axis.

Coll does not cure the deficiencies of *Li*. Applicants submit that *Coll* does not disclose or suggest branched carbon nanotubes, but rather "a tangled carpet of carbon nanotubes." See col. 8, lines 52-57.

Similarly, concerning claim 42, which depends from claim 37, Applicants respectfully submit that *Li* fails to disclose or suggest all the features of claim 37 for at least the reasons set forth above. Again, *Coll* fails to cure the deficiencies of *Li* for at least the reasons set forth above.

For at least the reasons set forth above, Applicants respectfully submit that claims 1 and 42, which depends from claim 37, are allowable. Claims 2, 13, 14, and 32 depend from claim 1, and are allowable for at least the same reasons.

Withdrawal of the rejection is respectfully requested.

b. *Li* in view of *Coll* and *Kaiser*

The Office Action rejects claims 3, 4, 15, and 16 under 35 U.S.C. §103(a) as being unpatentable over *Li* in view of *Coll* and further in view of *Kaiser* (U.S. Patent Publication No. 2002/0068213). The rejection is respectfully traversed.

Claims 3, 4, 15, and 16 depend from claim 1, therefore Applicants respectfully submit that for the reasons discussed above, *Li* and *Coll* fail to disclose or suggest all the features of claim 1. *Kaiser* fails to cure the deficiencies of *Li* and *Coll*. *Kaiser* also fails to disclose or suggest branched carbon nanotubes as claimed in claim 1, which as claimed, have been distinguished from *Li* and *Coll*.

For at least the reasons set forth above, Applicants respectfully submit that claims 3, 4, 15, and 16 are allowable for at least the same reasons as claim 1. Withdrawal of the rejection is respectfully requested.

c. *Li*

The Office Action rejects claims 36 and 40 under 35 U.S.C. §103(a) as being unpatentable over *Li*. The rejection is respectfully traversed.

Claim 36 depends from claim 33 and claim 40 depends from claim 37, and Applicants respectfully submit that for the reasons discussed above concerning claims 33 and 37, that *Li* fails to disclose or suggest all the features of the claims.

Withdrawal of the rejection is respectfully requested.

3. New Claims

New claims 43-45 are added to the application. Applicants respectfully submit that claims 43 and 44, which depend from claim 37, are allowable for at least the same reasons that claim 37 is allowable. Claim 45 is allowable for at least the recited feature of "a straight main axis portion with two or more branch portions emanating from the straight main axis portion" as discussed in a previous interview and incorporated herein. Allowance of all pending claims is respectfully requested.

4. Conclusion

Applicants invite the Examiner to contact Applicants' representative at the telephone number listed below if any issues remain in this matter, or if a discussion regarding any portion of the application is desired by the Examiner.

In the event that this paper is not timely filed within the currently set shortened statutory period, Applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

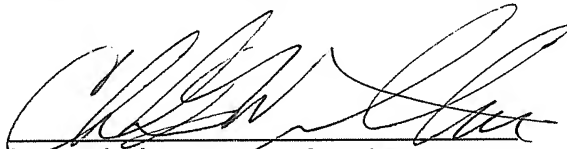
In the event that any additional fees are due with this paper, please charge our Deposit Account No. 02-4800.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

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By:


Laura L. Lee
Registration No. 48752

P.O. Box 1404
Alexandria, VA 22313-1404
703 836 6620